Appl. No. 10/032,075
Reply to Office Action of November 10, 2004

Docket No. EMC-048PUS

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

1   1. (Original)   A method for incrementally backing up data from a logically represented
2   volume on disk media, accessible by a client through a network connection, the client comprising
3   an enterprise database application, said method comprising:
4   identifying tracks of the logically represented volume that have changed since a
5   last incremental backup operation by reading fresh data indications, (i) wherein each of the fresh
6   data indications corresponds to a track of the logically represented volume and (ii) wherein a
7   given fresh data indication is indicative of whether its corresponding track has been changed
8   since a last incremental backup operation;
9   identifying files for incremental backup, the identified files comprising blocks
10 saved on a track deemed changed since a last incremental backup operation; and
11   backing up the identified files from the disk media to sequential storage media
12 through a high speed connection.
13
14 2. (Original)   The method according to claim 1, wherein the identified files are backed
15 up in their entirety.
16
17 3. (Original)   The method according to claim 2, wherein the acts of identifying tracks,
18 identifying files, and backing up the identified files are performed by a data manager of an
19 enterprise storage platform.
20
21 4. (Original)   The method according to claim 2, wherein said fresh data indications
22 comprise flag bits, set to zero or to one, by hardware when a given track is backed up or updated,
23 respectively.

1   5. (Original) The method according to claim 4, wherein said fresh data indications

2   comprise change marks.

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4   6. (Previously Presented) A system for incrementally backing up data from a logically

5   represented volume on disk media, accessible by a client through a network connection, the

6   client comprising an enterprise database application, said system comprising:

7   a track identifier to identify tracks of the logically represented volume that have

8   changed since a last incremental backup operation by reading fresh data indications, (i) wherein

9   each of the fresh data indications corresponds to a track of the logically represented volume and

10   (ii) wherein a given fresh data indication is indicative of whether its corresponding track has

11   been changed since a last incremental backup operation;

12   a file identifier to identify files for incremental backup, the identified files

13   comprising blocks saved on a track deemed changed since a last incremental backup operation;

14   and

15   a backup mechanism to back up the identified files from the disk media to

16   sequential storage media through a high speed connection.

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18   7. (Original) The system according to claim 6, wherein the track identifier, the file

19   identifier, and the backup mechanism comprise executing portions of encoded computer-

20   readable media of a data manager of an enterprise storage platform.

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22   8. (Original) The method according to claim 6, wherein said fresh data indications

23   comprise flag bits, set to zero or to one, by hardware when a given track is backed up or updated,

24   respectively.

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26   9. (Original) The method according to claim 8, wherein said fresh data indications

27   comprise change marks.

1   10. (Original) A machine-readable media for incrementally backing up data from a

2   logically represented volume on disk media, accessible by a client through a network connection,

3   the client comprising an enterprise database application, the computer-readable media being

4   encoded so that, when the machine-readable media is read by a computer, the machine-readable

5   media causes:

6   identifying tracks of the logically represented volume that have changed since a

7   last incremental backup operation by reading fresh data indications, (i) wherein each of the fresh

8   data indications corresponds to a track of the logically represented volume and (ii) wherein a

9   given fresh data indication is indicative of whether its corresponding track has been changed

10   since a last incremental backup operation;

11   identifying files for incremental backup, the identified files comprising blocks

12   saved on a track deemed changed since a last incremental backup operation; and

13   backing up the identified files from the disk media to sequential storage media

14   through a high speed connection.

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16   11. (Original) The machine-readable media according to claim 10, wherein the

17   identifying tracks, the identifying files, and the backing up comprise executing portions of

18   encoded computer-readable media of a data manager of an enterprise storage platform.

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20   12. (Original) The machine-readable media according to claim 10, wherein said fresh

21   data indications comprise flag bits, set to zero or to one, by hardware when a given track is

22   backed up or updated, respectively.

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24   13. (Original) The machine-readable media according to claim 12, wherein said fresh

25   data indications comprise change marks.